

1/24

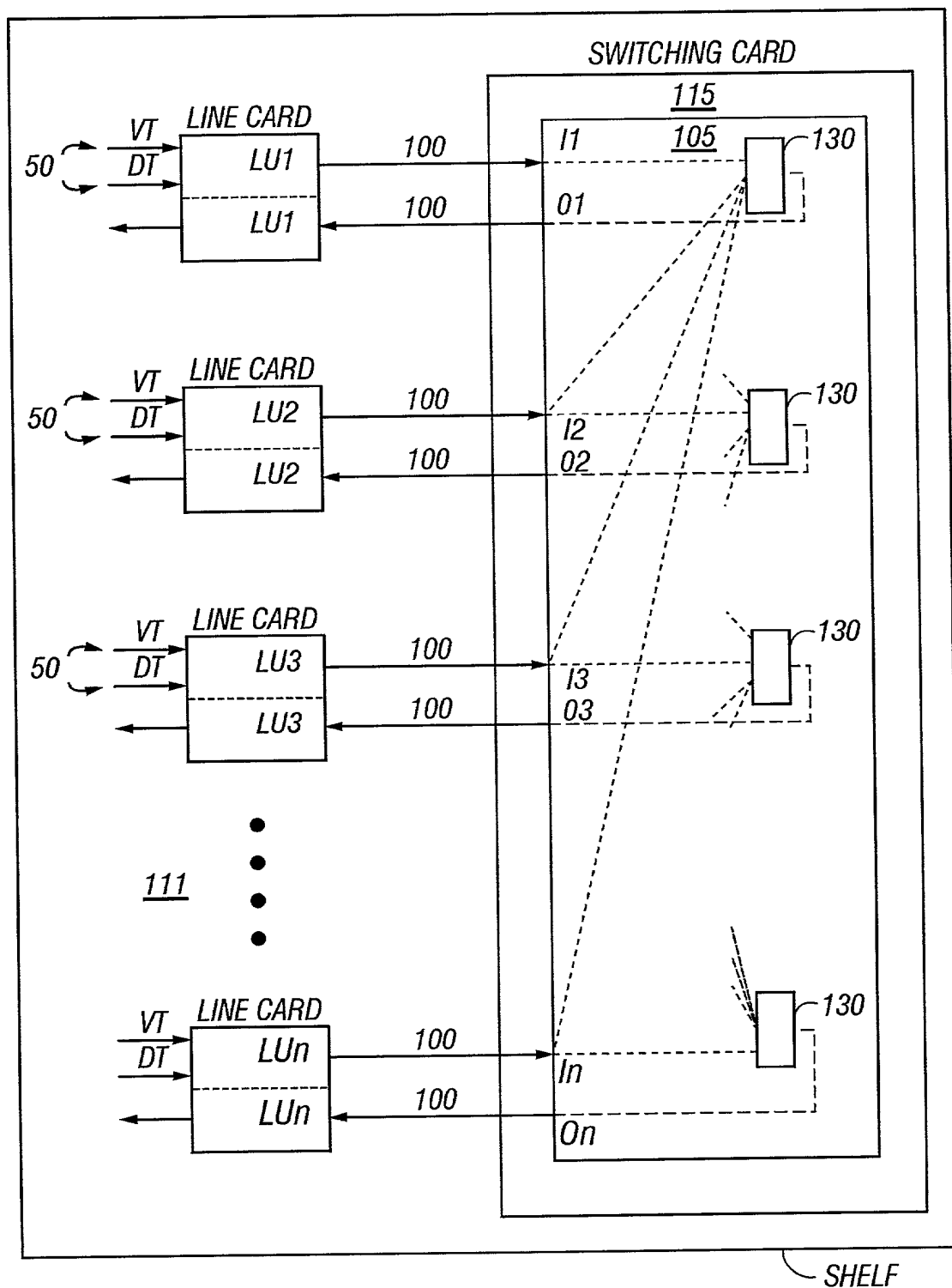


FIG. 1A

2/24

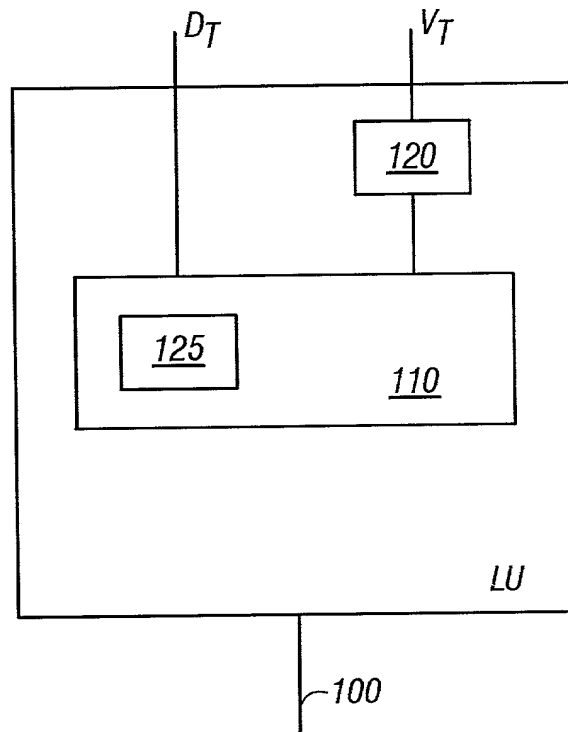


FIG. 1B

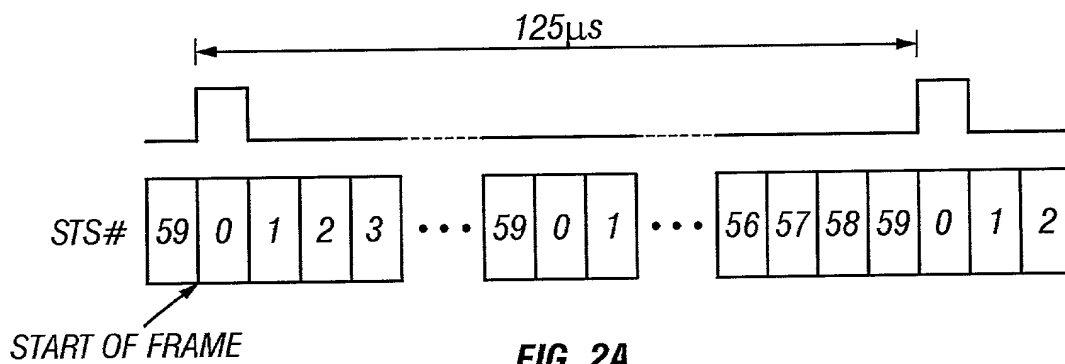


FIG. 2A

3/24

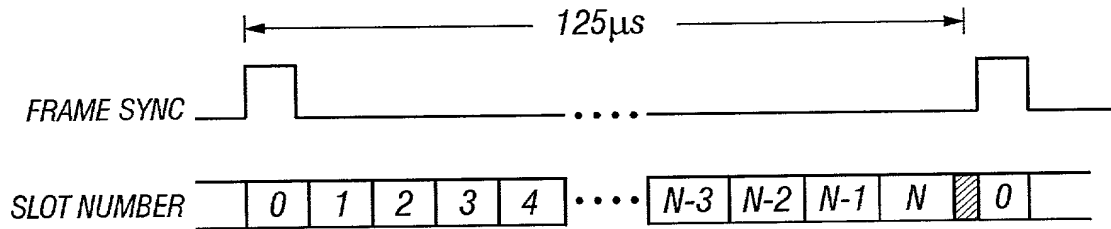


FIG. 2B

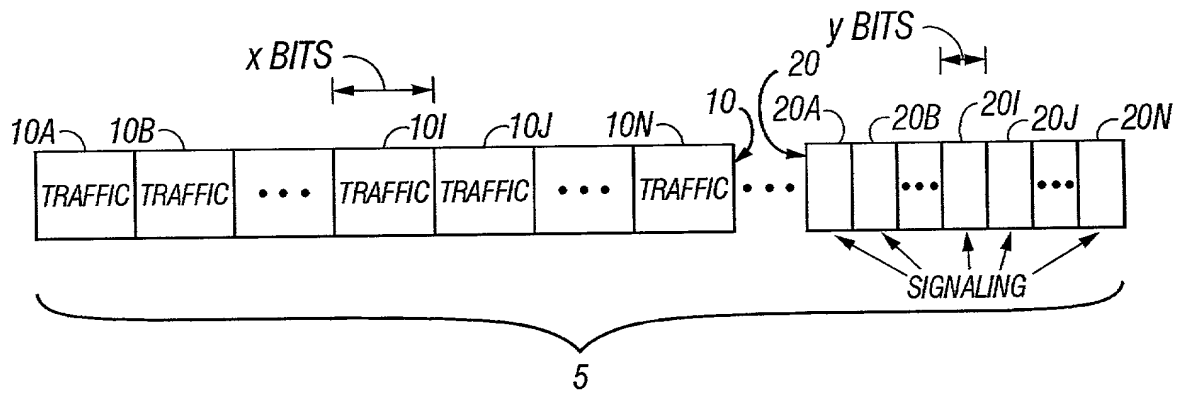


FIG. 3A

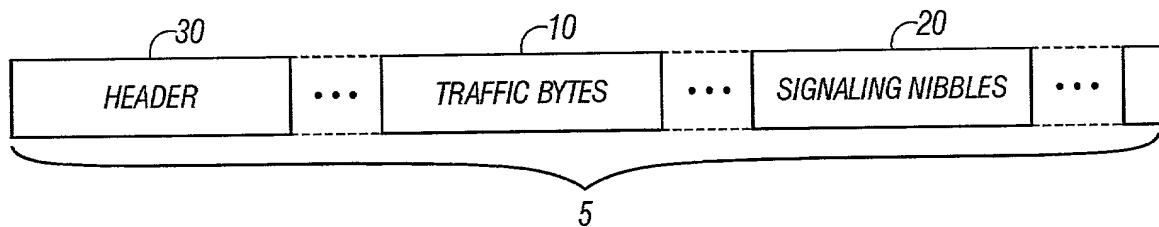


FIG. 3B

4/24

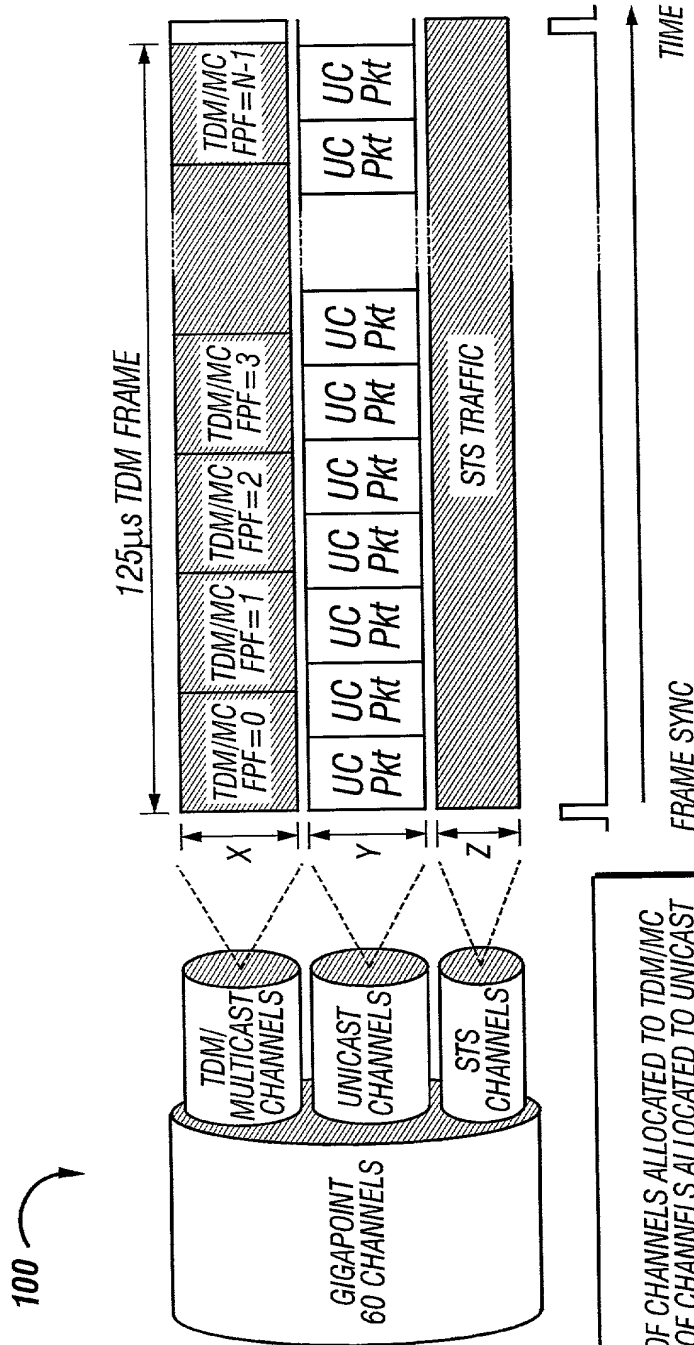


FIG. 2C

X=NUMBER OF CHANNELS ALLOCATED TO TDM/MC
Y= NUMBER OF CHANNELS ALLOCATED TO UNICAST
Z= NUMBER OF CHANNELS ALLOCATED TO STS
FPF: FRAME POSITION FIELD (VC[9:0])

5/24

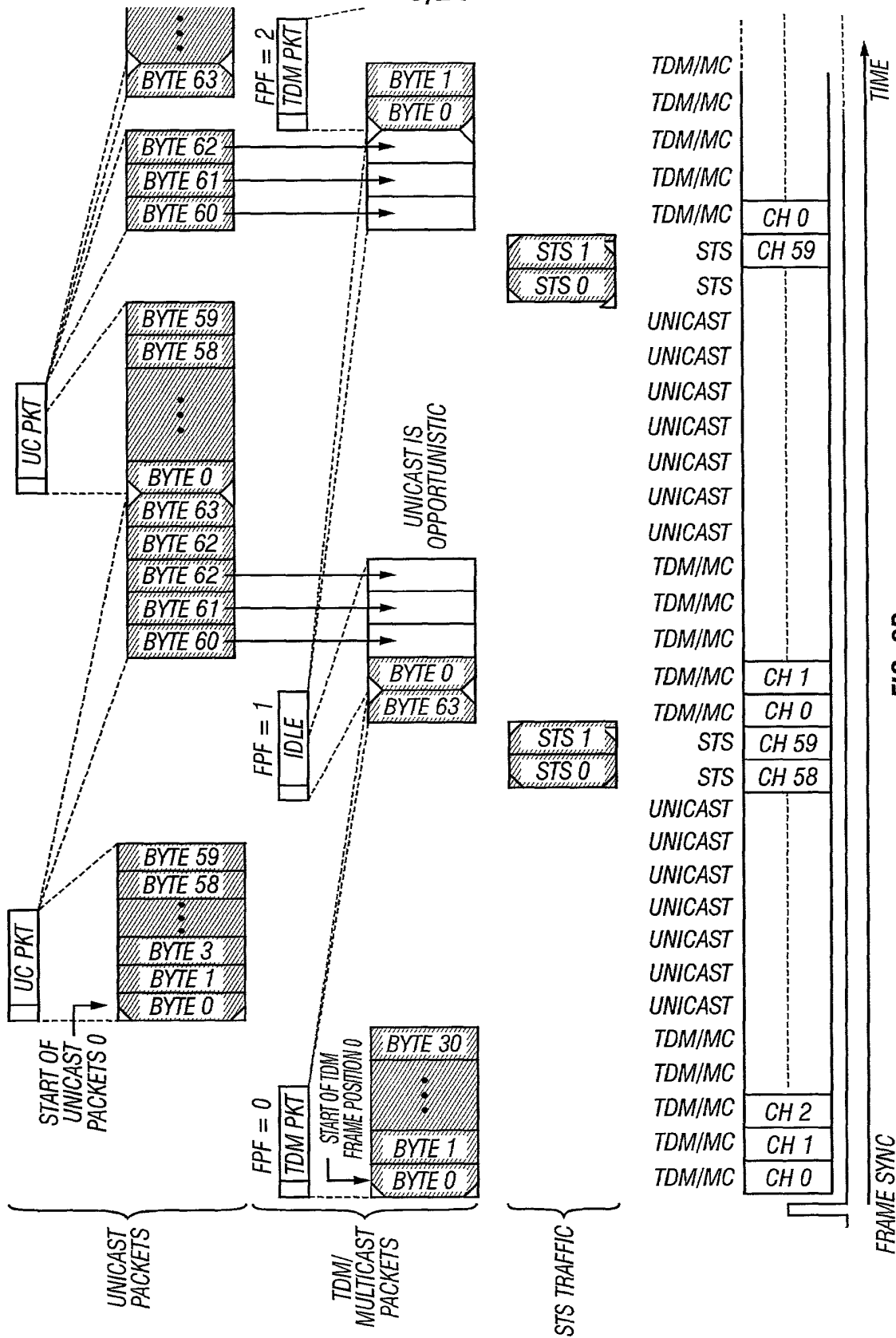
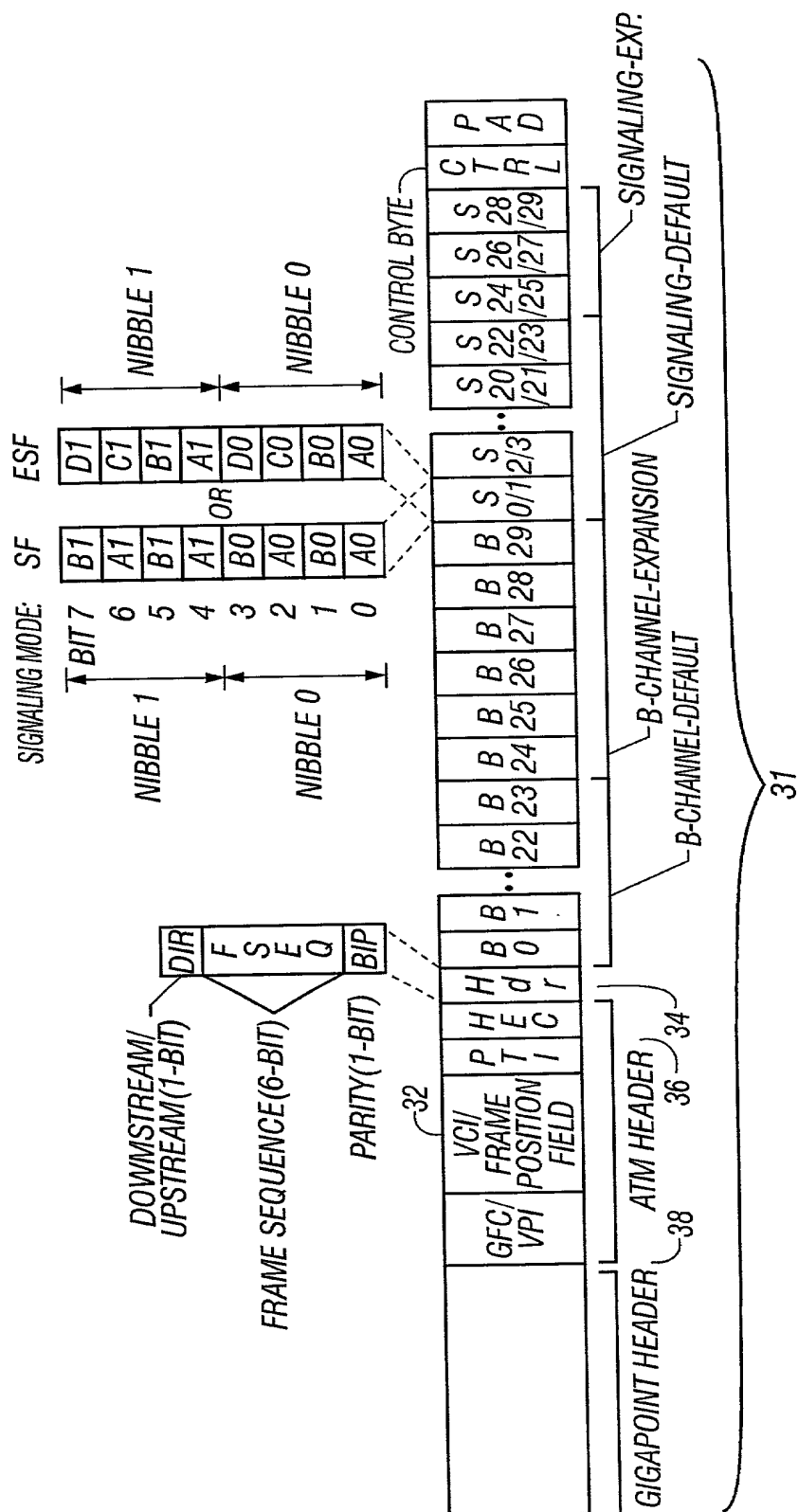


FIG. 2D



7/24

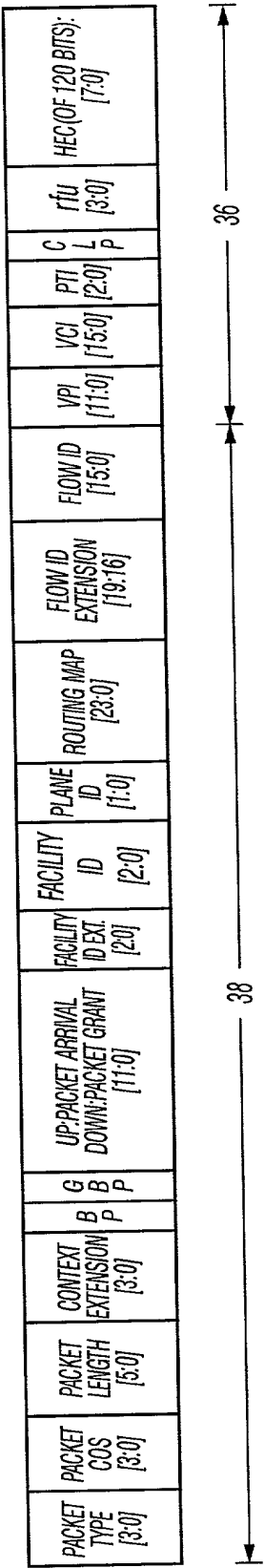


FIG. 3D

8/24

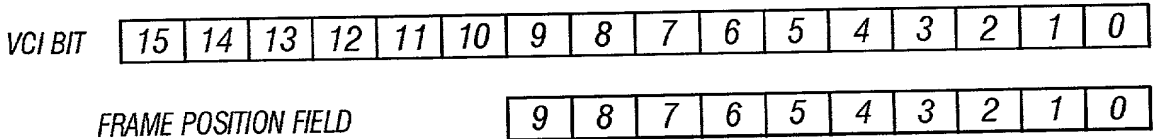


FIG. 4

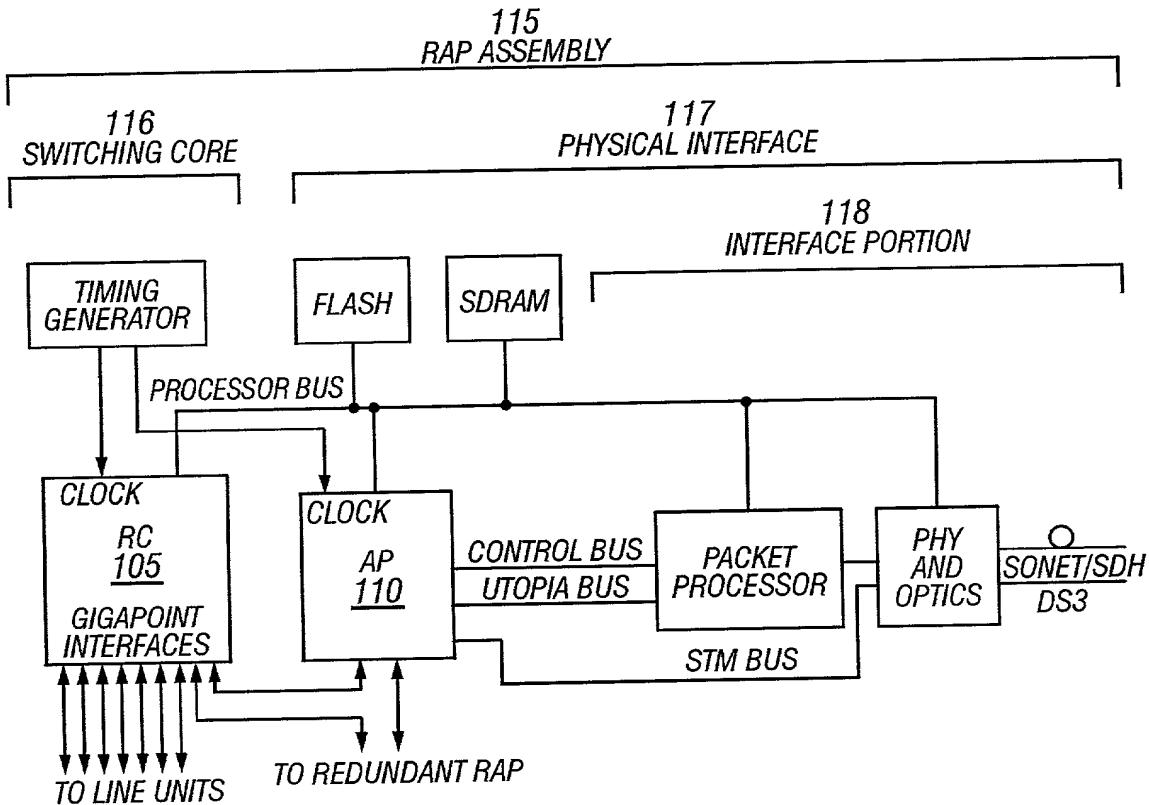


FIG. 5

9/24

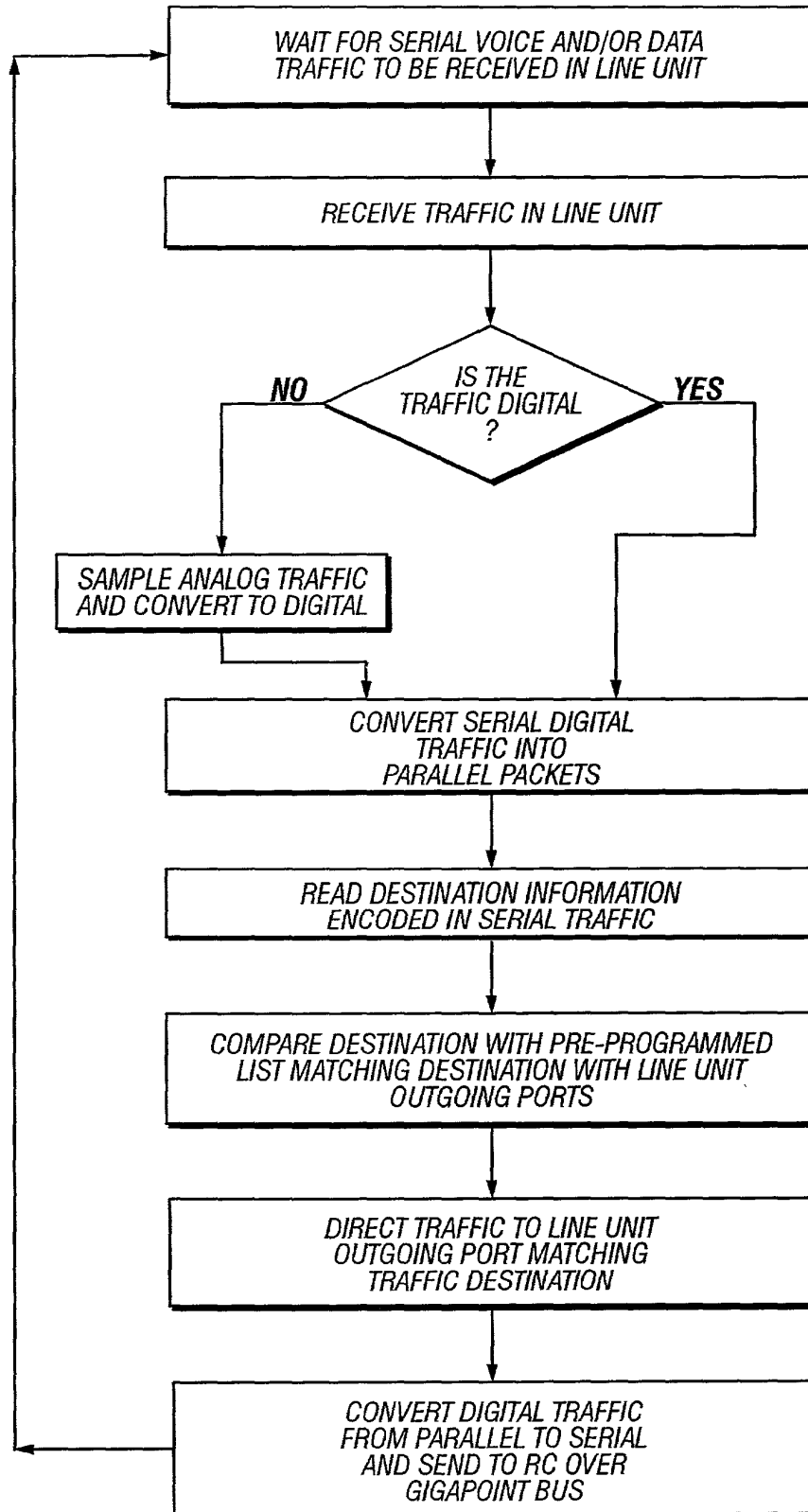


FIG. 6

09/874,402 - 09/874,402



Fig. 7

11/24

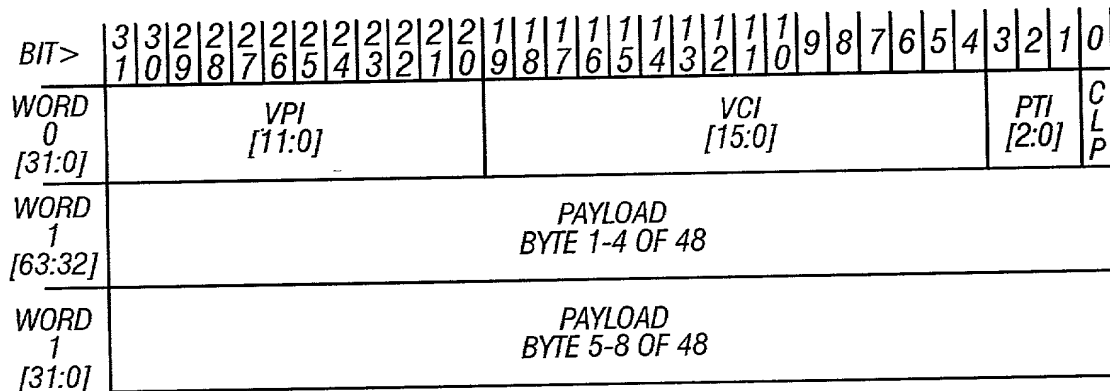


FIG. 8

PRIORITY	TRANSPORT TYPE	CHANNEL TYPE	TRAFFIC TYPE
1	CHANNELIZED	ANY	GIGAPOINT OVERHEAD
2	CHANNELIZED	STS	STS CHANNELS
3	SYNC PACKET	SYNC	TDM PACKETS
4	SYNC PACKET	SYNC	MULTICAST PACKETS
5	ASYNCH PACKET	ASYNCH	UNICAST PACKETS

FIG. 11

12/24

BIT>	3 1	3 0	2 9	2 8	2 7	2 6	2 5	2 4	2 3	2 2	2 1	2 0	1 9	1 8	1 7	1 6	1 5	1 4	1 3	1 2	1 1	1 0	9	8	7	6	5	4	3	2	1	0																											
WORD 0 [63:32]	PACKET TYPE [3:0]			PACKET COS [3:0]			PACKET LENGTH [5:0]			CONTEXT EXTENSION [3:0]			A L O P	G B P P	UP:PACKET ARRIVAL DOWN:PACKET GRANT [11:0]																																												
ROUTING MAP [23:0]																																																											
WORD 0 [31:0]	FACILITY ID EXT. [1:0]		FACILITY ID [3:0]		PLANE ID [1:0]																																																						
WORD 1 [63:32]	FLOW ID EXTENSION [19:16]			FLOW ID [15:0]																												VPI [11:0]																											
WORD 1 [31:0]	VCI [15:0]															PTI [2:0]		C L P		rfu [3:0]		HEC(OF 120 BITS): [7:0]																																					

FIG. 9

13/24

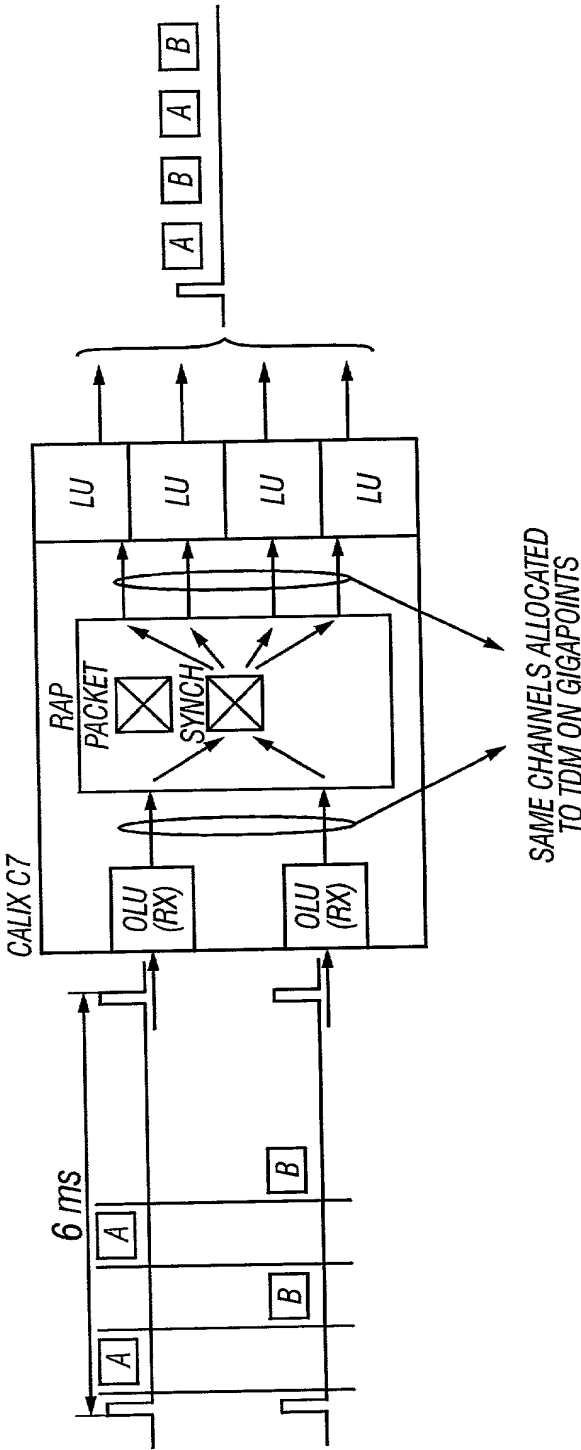


FIG. 10

14/24

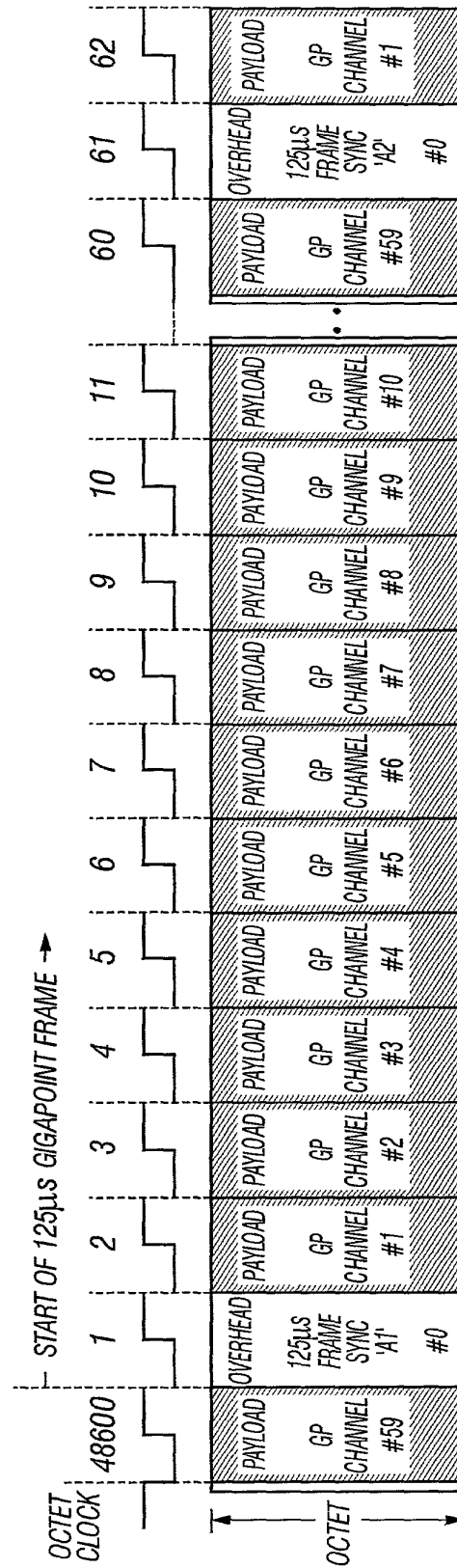


FIG. 12

15/24

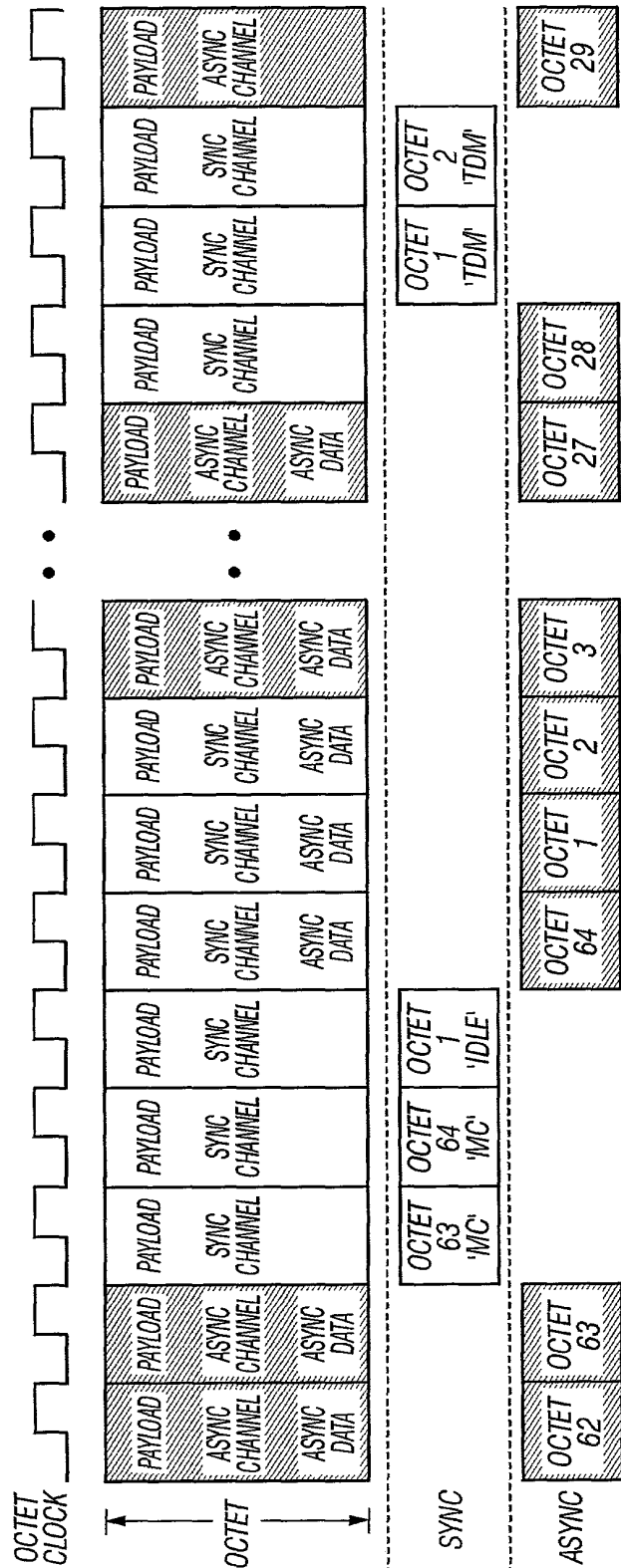


FIG. 13

16/24

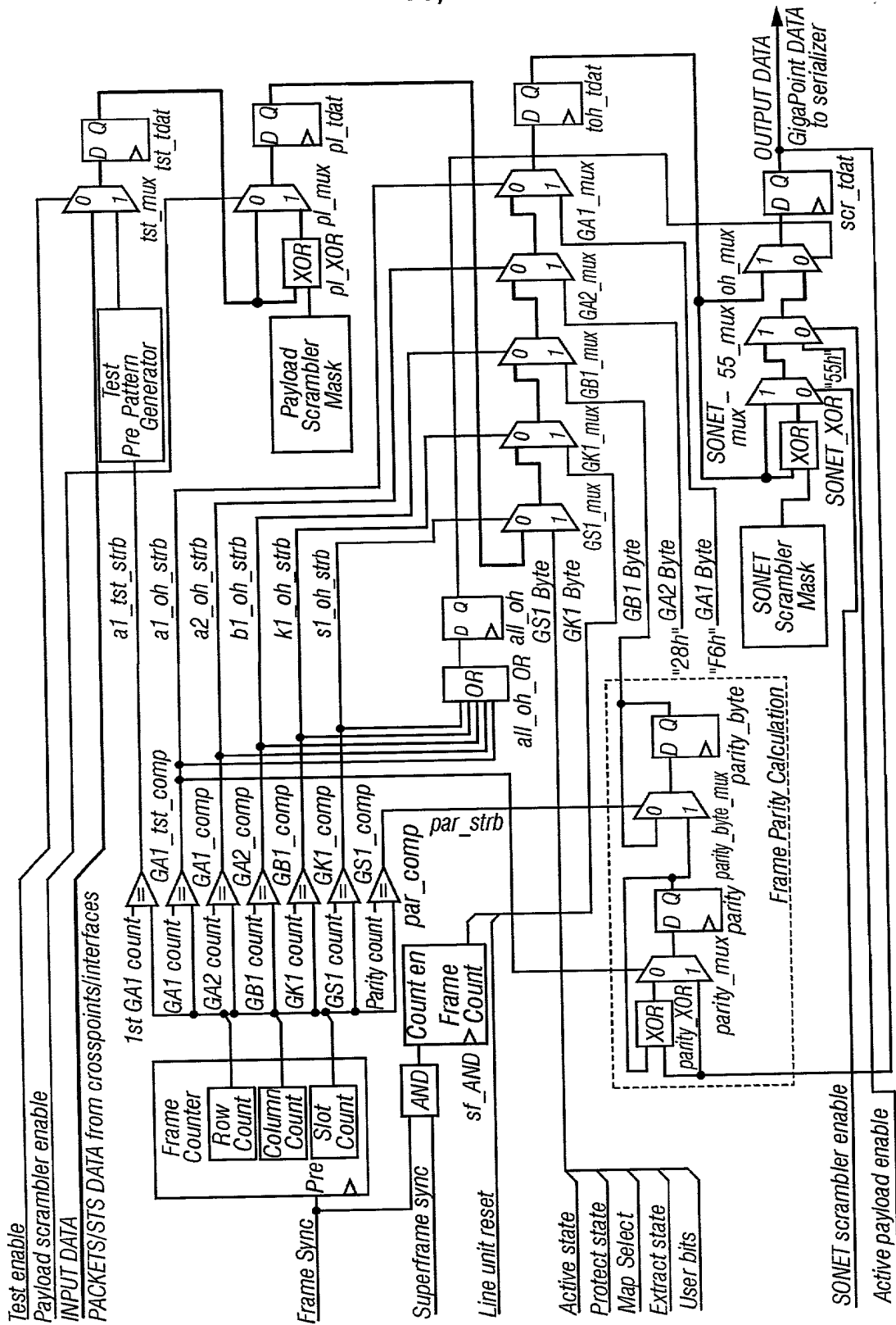
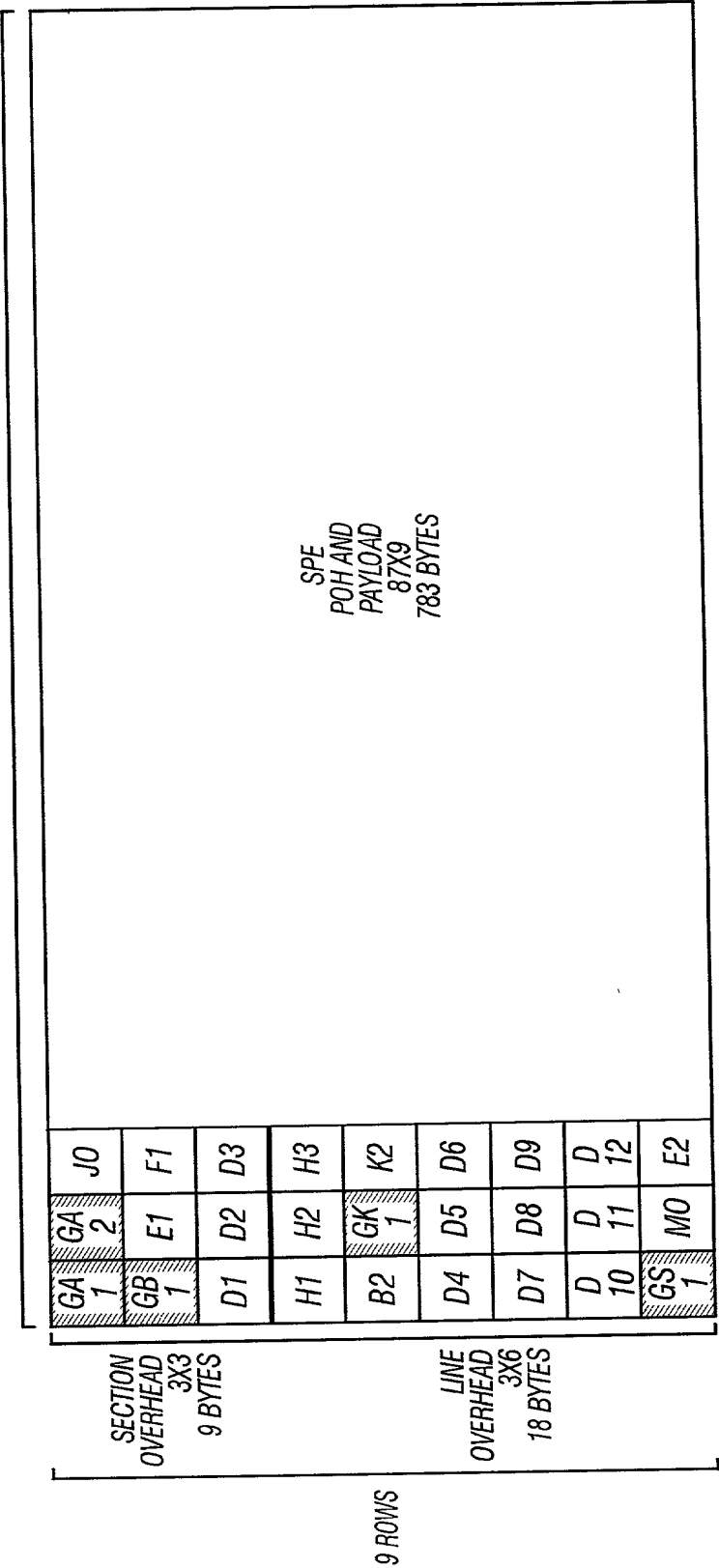


FIG. 14



FIG. 15

90 COLUMNS



OVERHEAD GIGAPoint CHANNEL
OVERHEAD: 5 BYTES
PAYLOAD: 805 BYTES

FIG. 16

19/24

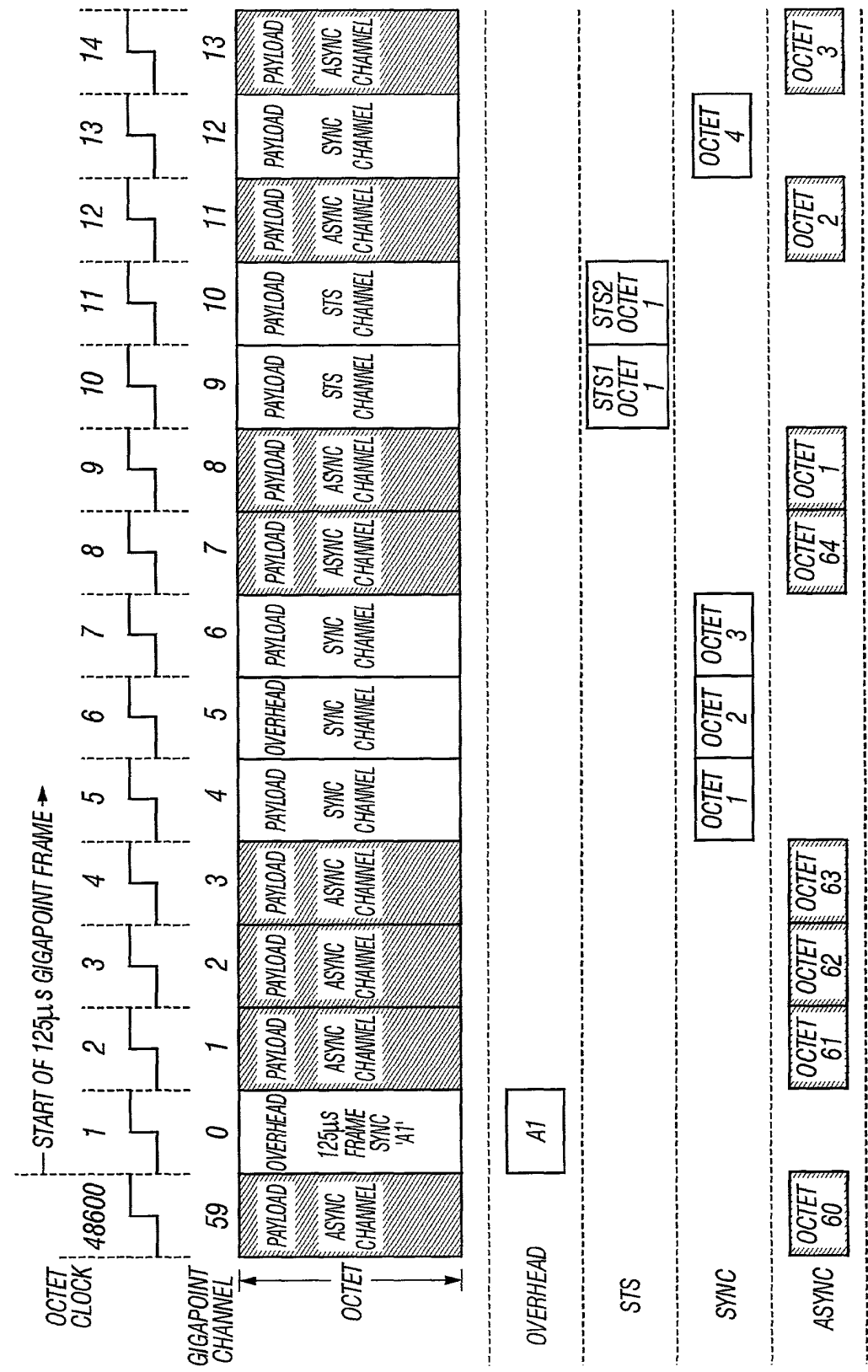


FIG. 17

20/24

ACTIVE STS CHANNELS	GIGAPOINT FLPS PER FRAME	PACKET DATA RATE (PAYLOAD ONLY)
0	758 PACKETS	2.33 Gbps
3	720 PACKETS	2.21 Gbps
12	607 PACKETS	1.86 Gbps
24	455 PACKETS	1.40 Gbps
48	151 PACKETS	0.46 Gbps

FIG. 18

OVERHEAD BYTE	POSITION IN OH CHANNEL	DESCRIPTION
GA1/GA2	BYTES 1 AND 2	GA1 AND GA2 BYTES CARRY GIGAPOINT FRAMING
GB1	BYTE 91	BIP - 8 PARITY. CALCULATED ON THE CONTENTS OF THE PREVIOUS FRAME
GK1	BYTE 362	GIGAPOINT RESET AND FRAME COUNT
GS1	BYTE 721	GIGAPOINT ACTIVE, PROTECT, STS PAGE, USER FIELD

FIG. 19

21/24

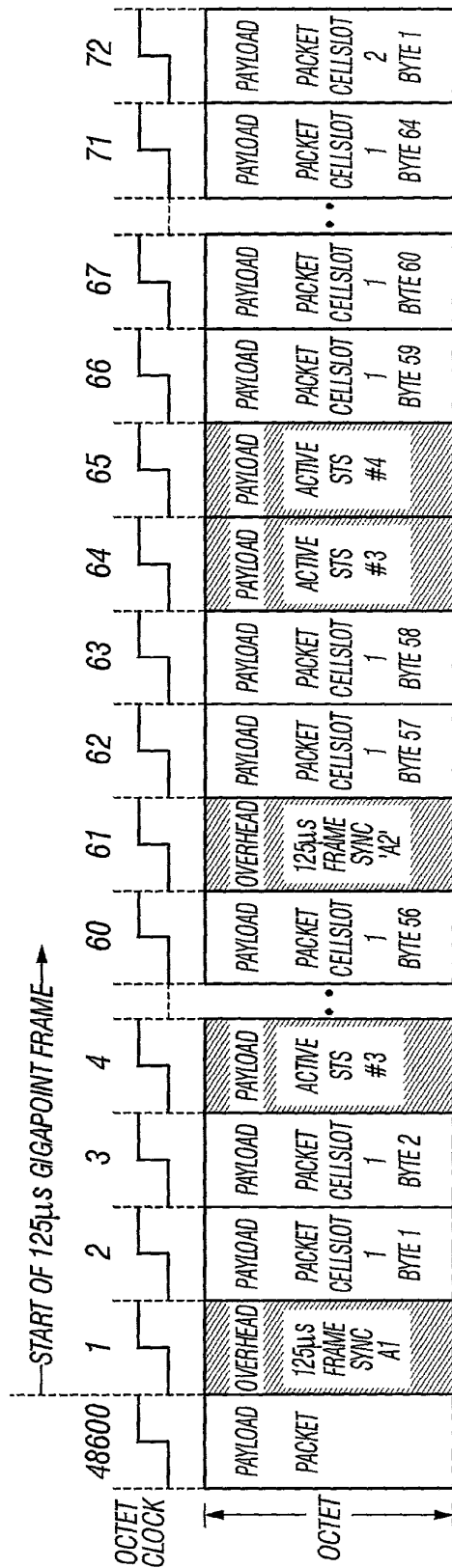


FIG. 20

22/24

BIT	DESIGNATION	DESCRIPTION
GK1 BIT 3	SYNC DATA 1	MSB OF THE TWO-BIT SYNC DATA BUS. USED AS A LOW SPEED SYNCHRONOUS DATA LINK CHANNEL BETWEEN THE RAP CARD AND LINE UNITS. AT LINE UNIT INSERTION, THE SYNC DATA LINK IS USED TO CONFIGURE THE LINE UNIT'S GIGAPIPOINT CHANNELS TO THE MATCH THE RAP CARD'S GIGAPIPOINT. WHEN THE GIGAPIPOINT CHANNELS ARE CONFIGURED, FURTHER RAP PROCESSOR TO LINE UNIT PROCESSOR COMMUNICATION ARE CARRIED ON OVER THE GIGAPIPOINT'S SYNC OR ASYNC PACKET CHANNELS. SYNC DATA BITS 1 AND 0 ARE QUALIFIED BY A CHANGE IN STATE OF THE SYNC CLOCK. SYNC DATA IS TRANSFERRED ON RISING AND FALLING EDGES OF THE SYNC CLOCK.
GK1 BIT 2	SYNC DATA 0	LSB OF THE TWO-BIT SYNC DATA BUS
GK1 BIT 1	SYNC CLOCK	SYNC CLOCK. RISING AND FALLING EDGE OF THIS CLOCK QUALIFIES SYNC DATA BITS 1 AND 0.
GK1 BIT 0	HANDSHAKE BIT	<p>THIS BIT TRANSFERS THE LOF (LOSS OF FRAME SYNC) STATE FROM THIS GIGAPIPOINT INTERFACE TO THE REMOTE GIGAPIPOINT INTERFACE.</p> <p>WHEN THIS BIT IS LOW, THE LOCAL RECEIVER IS OUT OF FRAME SYNC AND THE REMOTE TRANSMITTER SHOULD SEND THE IDLE DATA PATTERN WHEN NOT IN GA1 OR GA2 FRAME PATTERN TIMESLOTS.</p> <p>WHEN THIS BIT IS HIGH, FRAME SYNC HAS BEEN ACQUIRED. THE REMOTE TRANSMITTER CAN ENABLE ITS ACTIVE PAYLOAD BIT AND DRIVE THE GIGAPIPOINT BUS WITH ACTIVE TRAFFIC</p>

FIG. 21

23/24

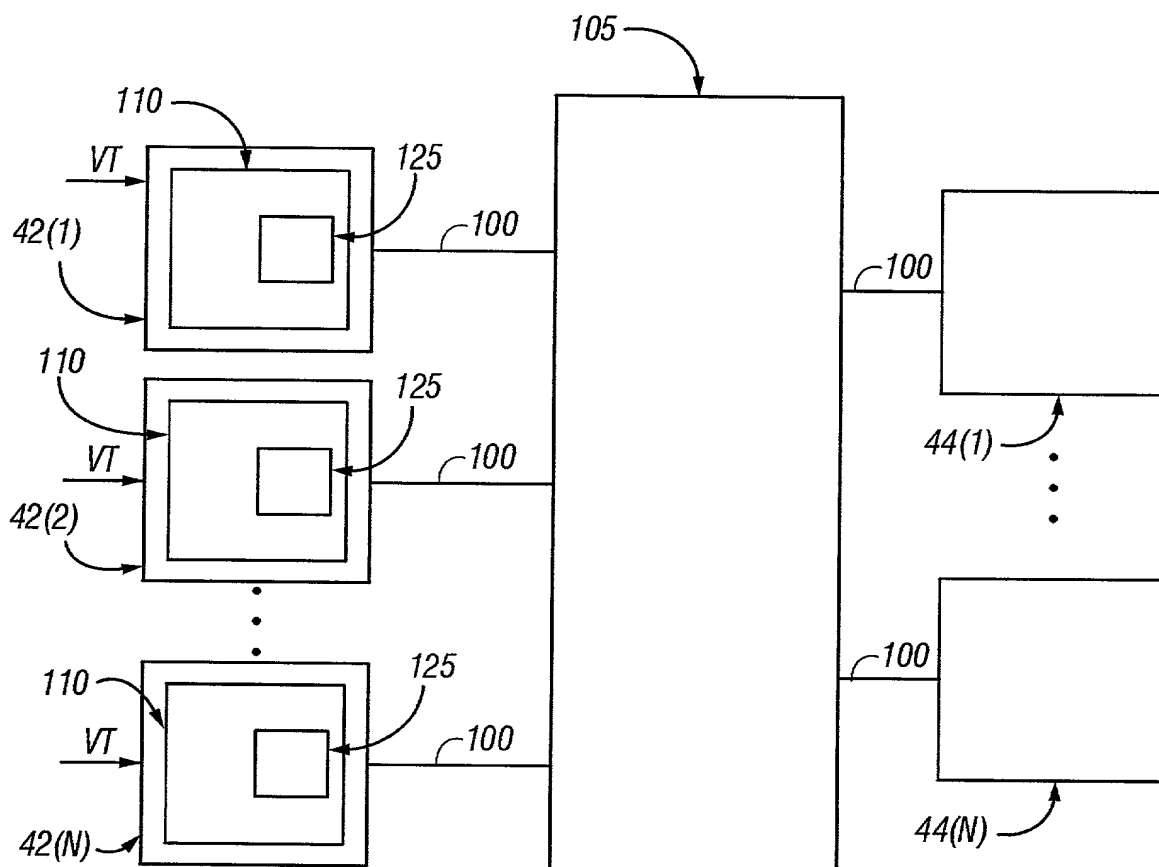


FIG. 22

24/24

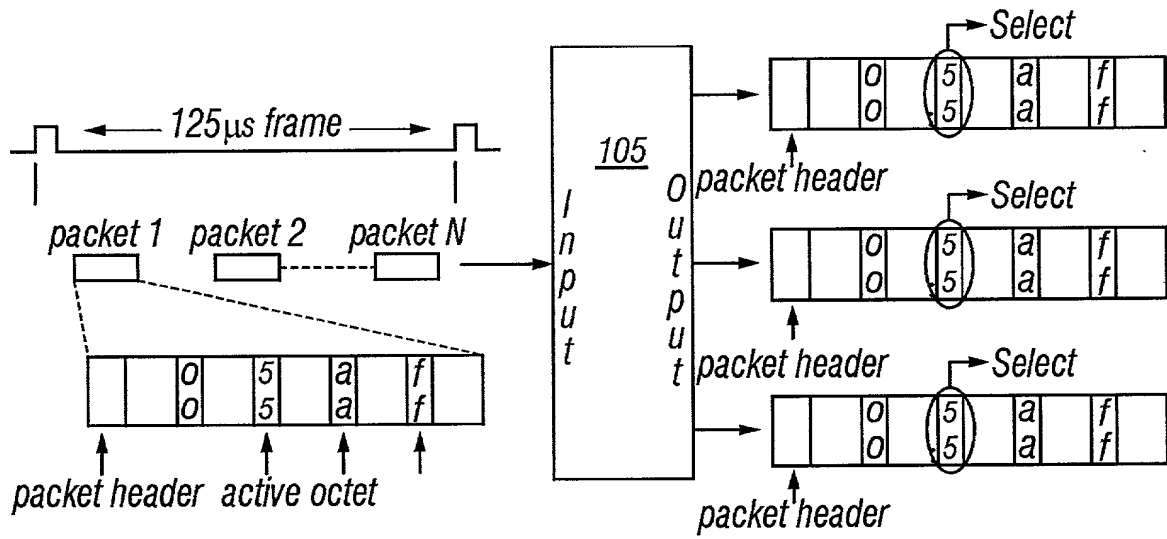


FIG. 23A

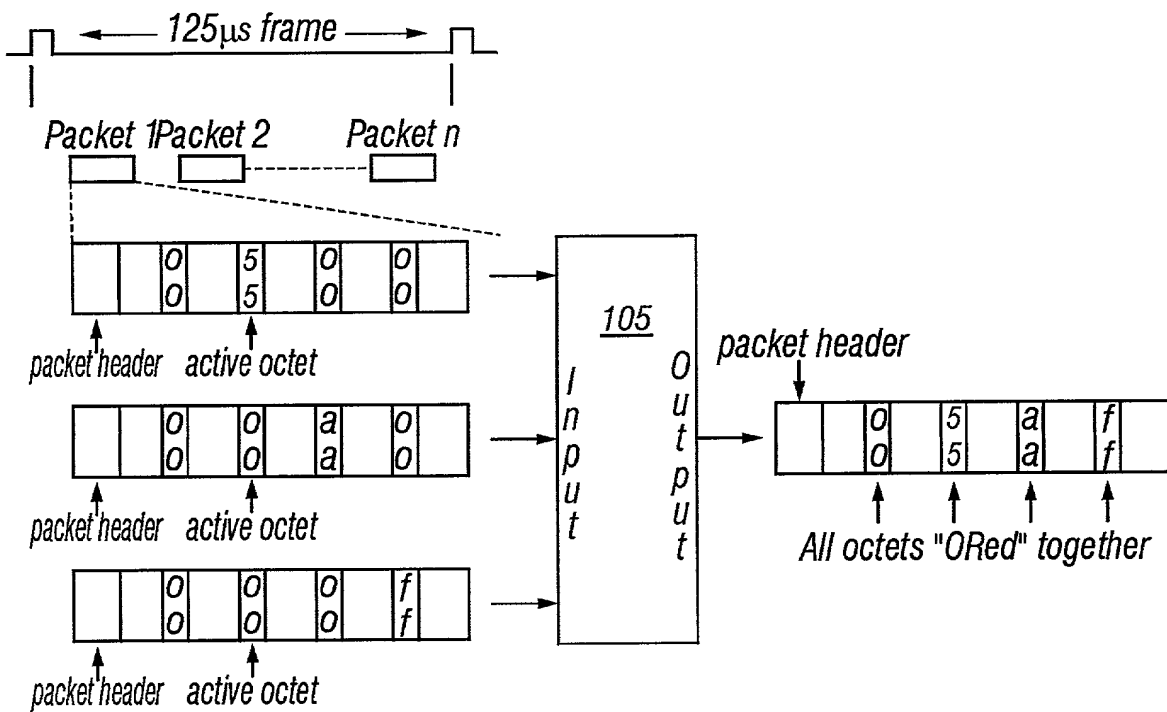


FIG. 23B

FIG. 23A